

CLAIMS:

1. An electrophoretic display panel (1), comprising:
- an electrophoretic medium (5) comprising charged particles (6);
 - a plurality of picture elements (2);
 - electrodes (3,4) associated with each picture element (2) for receiving a potential difference;
- 5 and
- drive means (100) ,
- the drive means (100) being arranged for controlling the potential difference of each picture element (2)
- to be a reset potential difference having a reset value and a reset duration for enabling
- 10 particles (6) to substantially occupy one of the extreme positions, and subsequently
- to be a picture potential difference for enabling the particles (6) to occupy the position corresponding to the image information,
- characterized in that the drive means (100) are further arranged for application of the reset potential difference for resetting a picture element from one optical state to an extreme
- 15 optical state in two or more pulses separated by a non-zero time interval during a reset period (P_{reset}).
2. An electrophoretic display panel as claimed in claim 1 characterized in that the drive means are arranged for application of the two or more pulses whereby the two or more
- 20 pulses have the same polarity.
3. An electrophoretic display panel as claimed in claim 1, characterized in that the drive means are arranged for application of the reset potential difference for resetting a picture element from an intermediate optical state to an extreme optical state in two or more
- 25 pulses separated by a non-zero time interval during a reset period (P_{reset}).
4. An electrophoretic display panel as claimed in claim 1, characterized in that the reset potential difference for resetting a picture element from one optical state to an extreme optical state is applied in two or more pulses during the reset period (P_{reset}) for image

transitions with a total reset potential application time shorter than a upper threshold and longer than a lower threshold.

5. An electrophoretic display panel as claimed in claim 1, characterized in that
5 the drive means (100) are further arranged for application of the reset potential difference for resetting a picture element from an optical state to an extreme optical state in more than two pulses during the reset period (P_{reset}).
6. An electrophoretic display panel as claimed in claim 1, characterized in that
10 the drive means (100) are further arranged for application of the reset potential difference for resetting a picture element from an optical state to an extreme optical state in two pulses during the reset period (P_{reset}).
7. An electrophoretic display panel as claimed in claim 6, characterized in that
15 the pulses are concentrated around 25% and 75% of the reset period.
8. An electrophoretic display panel as claimed in claim 1, characterized in that
the drive means are arranged for application of the reset potential difference in two or more pulses wherein the applied pulses have, for the transition from at least one intermediate
20 optical state to an extreme state, substantially equal time duration.
9. An electrophoretic display panel as claimed in claim 1 or 8, characterized in
that the drive means are arranged for application of the reset potential difference in two or
more pulses wherein , for the transition of at least one intermediate optical state to an extreme
25 optical state, the pulses are separated by at least two non-zero time intervals, and the time
intervals are of substantially equal length.
10. An electrophoretic display panel as claimed in claim 1, characterized in that
the drive means are further arranged to control for each picture element the potential
30 difference to be a sequence of preset potential differences before being the reset potential
difference, the sequence of preset potential differences having preset values and associated
preset durations, the preset values in the sequence alternating in sign, each preset potential
difference representing a preset energy sufficient to release particles present in one of said

extreme positions from their position but insufficient to enable said particles to reach the other one of the extreme positions.

11. A method for driving an electrophoretic display device comprising:
- 5 - an electrophoretic medium (5) comprising charged particles (6);
- a plurality of picture elements (2), in which method reset pulses are applied to elements of the display device, prior to application of grey scale data, for resetting picture elements characterized in that the reset potential difference for resetting a picture element from an optical state to an extreme optical state is applied in two or more pulses separated by a non-
- 10 zero time interval during a reset period (P_{reset}).
12. A method as claimed in claim 11, characterized in that the reset potential difference for resetting a picture element from an optical state to an extreme optical state is applied in more than two pulses during the reset period (P_{reset}).
- 15 13. A method as claimed in claim 11, characterized in that the reset potential difference for resetting a picture element from an optical state to an extreme optical state is applied in two pulses during the reset period (P_{reset}).
- 20 14. Drive means (100) for driving an electrophoretic display panel (1), said display panel (1) comprising:
- an electrophoretic medium (5) comprising charged particles (6);
- a plurality of picture elements (2); and
- electrodes (3,4) associated with each picture element (2) for receiving a potential difference;
- 25 said drive means (100) being arranged for controlling the potential difference of each picture element (2)
- to be a reset potential difference having a reset value and a reset duration for enabling particles (6) to substantially occupy one of the extreme positions, and subsequently
- to be a picture potential difference for enabling the particles (6) to occupy the position
- 30 corresponding to the image information,
said drive means (100) being further arranged for application of the reset potential difference for resetting a picture element from one optical state to an extreme optical state in two or more pulses separated by a non-zero time interval during a reset period (P_{reset}).